Workshop on Plasma Physics at FAIR

Final program (19.06.2017)

Wednesday, June 21st (Main Lecture Hall of GSI)

8:15–8:45 Registration
9:00–9:15 Welcome address (V. Bagnoud)

9:15–10:45 HED and Applications – Chair: M. Roth

- Matter Under Planetary Interior Conditions (25’ + 5’)
  - Ronald Redmer, University of Rostock

- Generation and characterisation of warm dense matter in the laboratory (25’ + 5’)
  - David Riley, Queens University Belfast

- Prospects of high-energy-density research with use of intense heavy ions (25’ + 5’)
  - Igor Lomonosov, IPCP RAS, Russia

10:45–11:00 Coffee Break

11:00–12:40 Proton Microscopy – Chair: Kurt Schoenberg

- The PRIOR facility (20’ + 5’)
  - Dmitry Varentsov, GSI

- On Proton Radiography of the Nonideal Plasma of Noble Gases (25’ + 5’)
  - Victor Mintsev, IPCP RAS, Russia

- Recent Developments of Charged Particle Radiography at Los Alamos National Laboratory (20’ + 5’)
  - Frank Merrill, LANL, USA

- Investigation of Shock Wave Compressibility of Carbon Fiber and Fiberglass for experiments at PRIOR (15’ + 5’)
  - Valentina Mochalova, ITEP of NRC Kurchatov Institute, Russia

13:00–14:00 Lunch Break

14:00–15:45 Plasma Physics Research at other facilities – Chair: Thomas Kühl

- Research with intense, pulsed ion beams at Berkeley Lab (25’ + 5’)
  - Thomas Schenkel, Lawrence Berkeley National Laboratory, USA

- X-ray spectroscopy for Plasma Physics “Day One” experiments at FAIR (20’ + 5’)
  - Dimitri Batani, University of Bordeaux, France

- Creating and probing dense plasmas at PALS/ELI-Beamlines facilities: applicability to plasma physics program at FAIR (20’ + 5’)
  - Libor Juha, Institute of Physics ASCR, Czech Republic
• Prospects of Warm Dense Matter generated by Intense Heavy Ion Beam @ HIAF (20’ + 5’)
  o Rui Cheng, Institute of Modern Physics, Lanzhou, China

15:45–17:45 Poster session with Coffee break *(Canteen at BK building)*

18:15–18:45 Bus transfer to Burg Frankenstein

19:00–21:30 Conference dinner at Burg Frankenstein
Thursday, June 22\textsuperscript{nd} (Main Lecture Hall of GSI)

9:00–10:40 Ultrafast Plasma – Chair: Paul Neumayer
- Visualizing the transformation of matter in extreme conditions (25’ + 5’)
  - Siegfried Glenzer, SLAC National Laboratory, USA
- Ultra-high energy density plasmas using nanostructured plasmas (15’ + 5’)
  - Alexander Pukhov, University of Duesseldorf
- Laser accelerated ion bunches as a unique tool for high energy density physics (15’ + 5’)
  - Artem Korzhimanov, Institute of Applied Physics of RAS, Russia
- Spectroscopic analysis of plasmas created in high contrast relativistic laser-matter interaction (15’ + 5’)
  - Olga Rosmej, GSI

10:30–11:00 Coffee Break & Conference Photo

11:00–12:55 FAIR facilities – Chair: Abel Blazevic
- Status of FAIR (25’ + 5’)
  - Paolo Giubellino, GSI
- Facilities for High Energy Density Experiments at FAIR (20’ + 5’)
  - Stephan Neff, GSI
- Status SIS100 – Upgrade SIS18 (15’+5’)
  - Peter Spiller, GSI
- Progress towards first day experiment diagnostics at FAIR (15’ + 5’)
  - Markus Roth, Technical University Darmstadt
- On theoretical support of FAIR relevant experiments by JIHT of RAS (15’ + 5’)
  - Nikolay Andreev, JIHT, Russia

13:00–14:00 Lunch Break

14:00–15:30 Laser-based Plasma – Chair: Christian Spielmann
- Ionization Measurements in 30-fold Compressed, Near-Degenerate Plasmas (20’ + 5’)
  - Tilo Doepner, Lawrence Livermore National Laboratory, USA
- Generation of intense radiation over the entire spectrum from intense laser beam-plasma and particle beam interaction (15’ + 5’)
  - Peter Mulser, Technical University Darmstadt
- X-ray spectroscopy for Plasma Physics “Day One” experiments at FAIR (20’ + 5’)
  - Dimitri Khaghani, University Jena
- Nuclear Processes in Dynamic High Energy Density Plasmas (15’ + 5’)
  - Dieter H. Schneider, Lawrence Livermore National Laboratory, USA
15:30–16:15 Coffee Break

16:15–18:15 Panel discussion or campus tour
- 16:15–17:30 “Combined Laser-Ion Experiments at HHT”
- 17:35–18:35 “PRIOR – Drivers and physics”

18:30–22:00 Workshop dinner (Canteen at BK building)
Friday, June 23rd (Main Lecture Hall of GSI)

9:00–10:10 HED facilities and support – Chair: Olga Rosmej

- Requirements for Dynamic Thermometry on MaRIE: Areas for Collaboration Research (25’ + 5’)
  o Kurt Schoenberg, EMMI GSI
- Experimental Capabilities of the PHELIX facility (15’ + 5’)
  o Stefan Götte, GSI
- Generation of Planetary Interior Conditions in the Laboratory Using Intense Heavy Ion Beams at FAIR (15’ + 5’)
  o Naeem Tahir, GSI

10:10–10:30 Coffee Break

10:30–11:30 Nanosecond Plasma – Chair: Nikolay Andreev

- Hydrodynamic attenuation of shock waves and entropy shaping (15’ + 5’)
  o Antonio Roberto Piriz, Universidad de Castilla La Mancha, Spain
- Energy Deposition and Wakefield Excitation of Ion Beam Passing through a Plasma Target (15’ + 5’)
  o Yongtao Zhao, XJTU & IMP, China
- Applications of high resolution X-ray fluorescence spectroscopy for HIHEX-experiments at FAIR (15’ + 5’)
  o Andreas Schoenlein, Goethe university Frankfurt

11:30–12:00 Conclusion and Remarks